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Maritime Research Division

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By James D. Spirek

Introduction

Following the opening shots onto Fort Sumter on 12 April 1861 until the evacuation of the fort and city by Confederate forces on 17 February 1865, Charleston Harbor was the scene of a protracted struggle between Confederate and Union naval and ground forces during the Civil War (Fig. 1). Blockaded and assaulted by Union land and naval forces, Confederate defenders deployed a variety of counter measures to keep the opposing force at bay. On land, a series of strong forts, key ones including Fort Sumter and Fort Moultrie, and earthen batteries situated on key points in the harbor and nearby sea islands ringed and guarded the port city from several anticipated Federal avenues of approach. On the water, a small squadron of ironclads and other vessels, along with a series of physical obstructions, composed of log booms, ropes, pilings, and torpedoes (mines) provided a deterrent to Union warships entering the harbor. Novel vessels were also employed to strike at the Federal fleet stationed offshore, including *Davids*, a class of steam powered semi-submersibles, and a submarine, *H.L. Hunley*, the first successful combat submarine in history, which sunk the USS *Housatonic* on 17 February 1864. Blockade runners evading the Union gauntlet provided a tenuous lifeline with the outside world by exporting cotton, rice, and naval stores in exchange for needed military supplies, as well as luxury goods.

On the Union side, a large fleet stationed off the channels at Charleston Harbor maintained a blockade to prevent military necessities and commercial products from reaching the south. Naval forces also engaged in offensive movements by launching the highly anticipated naval assault on Charleston Harbor that occurred on 7 April 1863; it was decisively repulsed by Confederate coastal artillery. The navy assisted army movements on James Island and along the Stono River, the backdoor to the city, and especially during the campaign for Morris Island in 1863. The largest contingent of ironclad vessels in the Union arsenal underscored the political importance of taking the city, oftentimes referred to as the "Cradle of Secession." As Federal forces aimed for the political head of the Confederacy at Richmond, punched the body in the West, the combined naval and land forces at Charleston struggled to pierce the heart. Ultimately, Confederate steadfastness and ingenuity, along with waxing and waning Union military and political objectives to taking Charleston, resulted in a stalemate between the two combatants. A deadlock only broken by the abandonment of the city by Confederate forces caused by the flanking march through South Carolina by Federal forces under Major General William T. Sherman. Only then did the United States flag once again fly over the now shapeless ruin of Fort Sumter.

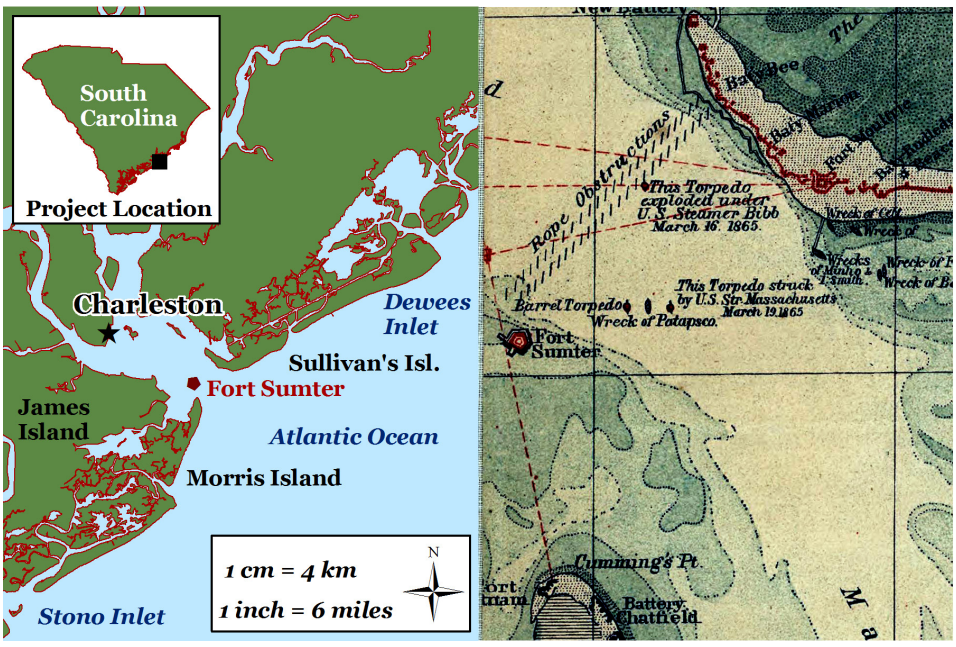

Fig. 1: The project location and detail of Confederate defenses at the throat of the harbor between Forts Sumter and Moultrie. (SCIAA graphic)

Archaeological Manifestations of the Naval Operations

Following four years of defending, blockading, and assaulting with various implements of war, both sides of the conflict left an array of cultural features on the battlefield. Unlike many battlefields that may last one day or several days leaving few traces, the siege of Charleston Harbor lasted for four years with a plethora of evidence showing the intensity of the fighting. On the Confederate side, several auxiliary steamers, *Etiwan*, *Manigault*, and *Sumter*, lie on the harbor floor. Several land batteries now lay inundated under harbor waters, most notably Battery Wagner and Fort Ripley. Prior to the outbreak of the war, Confederate forces sank four block ships at the bar of the Main Ship Channel to prevent Federal warships and

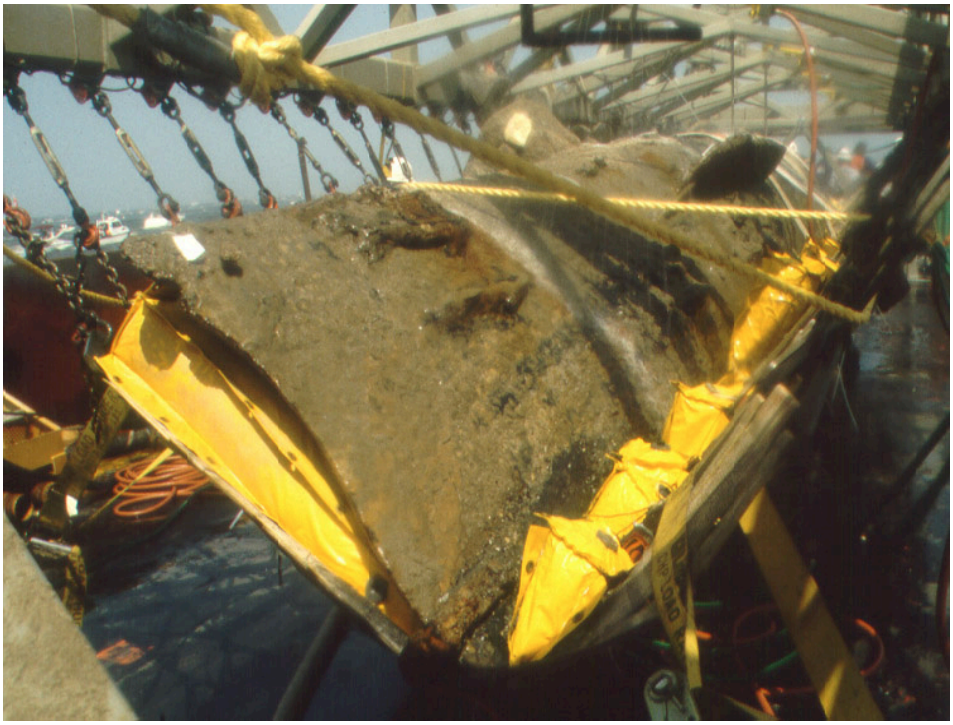

Fig. 2: *H.L. Hunley* in the slings after its recovery in 2000. (SCIAA photo by Christopher F. Amer)

supply steamers from entering to aid in the relief of besieged Fort Sumter in early 1861. Other obstructions developed as the siege continued including a series of log booms stretching across the harbor entrance, a row of pilings placed between Castle Pinckney and Fort Ripley, and several sets of frame torpedoes in various channel locations in the harbor. Evidence of the floating log booms may not exist; however, piling stumps may indicate the position of the row obstructions. A number of ill-fated blockade runners, both underwater and now under the beach, rest off Fort Moultrie, as well as along the since closed northern approach into the harbor through Maffit's Channel. The remains of the Confederate submarine, *H.L. Hunley*, once lay hidden on the bottom off Charleston Harbor near its victim, USS *Housatonic*. After its discovery (1995) and recovery (2000) the *H.L. Hunley* now resides in a conservation tank undergoing preservation, eventually slated for display at a purpose built museum in North Charleston (Fig. 2).

On the Federal side, a number of vessels and other relicts provide testimony to the Union attempt to take the city. In a vain attempt to close the harbor to blockade runners, 29 ex-New England whaling and merchant vessels were sunk at the two main ship channels and were quickly consumed by the shifting sediments. Three ironclads, two the victims of enemy actions (USS *Patapsco* and *Keokuk*), and the other from foundering (USS *Weehawken*), rest on the harbor floor (Fig. 3). Another remnant of the ironclad fleet, an anti-torpedo raft known as the *Devil* and used by *Weehawken*, reportedly resides in the marsh behind Morris Island. The first victim of a combat submarine, USS *Housatonic*, lies buried under several feet of overburden five miles offshore. There are also several Federal batteries including the "Swamp Angel," with portions remaining visible in the marsh, and Battery Shaw and the Surf Battery, both of which potentially exist, but are now inundated off Morris Island.

Naval Battlefield of Charleston Harbor

During the investigations at the *Hunley-Housatonic* Naval Engagement Site from 1996-2000, underwater archeologists from the National Park Service's Submerged Resources Center put forward the idea that the engagement between the Confederate submarine and the Union blockader represented a battlefield. Giving further thought to this concept over the subsequent years, and when examined within the larger context among the many events that occurred off Charleston Harbor from 1861-1865, the action that night was essentially a skirmish, an action, or an affair that occurred on a battlefield. It is not too hard to think of Charleston Harbor as a battlefield during the Civil War, as this was the location of one of the most heavily fortified ports on earth opposing a large naval and land contingent bent on its destruction. That was the concept that the MRD wanted to develop—to understand the larger naval battlefield of Charleston Harbor, to expand beyond the *H.L. Hunley* and *Housatonic* action, and to explain the circumstances of the other Confederate and Union shipwrecks, along with associated archaeological features, remaining on this field of coastal conflict. In a manner similar to excavating an archaeological site composed of a number of individual artifacts or features, while the artifact itself is important, but perhaps more important is its context within the assemblage, which in turn helps to gain a better understanding of the site itself. And that was our objective, to better understand and interpret the Charleston Harbor Naval Battlefield.

In 2008, the Maritime Research

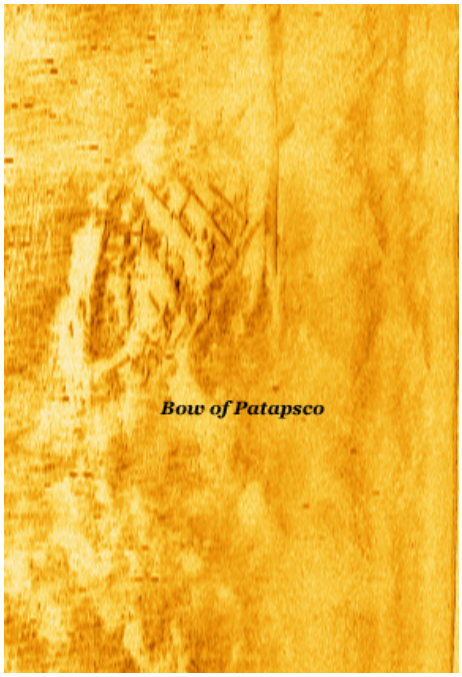

Fig. 3: Sonogram of the remains of the bow of *Patapsco*. (SCIAA graphic)

Division (MRD) prepared and was awarded an American Battlefield Protection Program grant administered by the National Park Service to study the naval battlefield of Charleston Harbor. The focus of this project was on the offensive and counter-offensive measures used at the main naval avenue of approach into Charleston via the Atlantic Ocean by way of Charleston Harbor. Through archaeological remains and historical research, the project aimed to identify the boundary, and the various core and defining features, of the battlefield, namely the wrecks of ironclads and blockade runners, now-submerged land batteries, and obstructions. Historical and previous archaeological research guided field operations to pinpoint known sites and to survey for historically-documented battlefield related cultural features. One problem noted in past surveys in the Charleston area, and throughout the state, is the actual known and documented sites oftentimes are hundreds of yards away from their historically or archaeologically recorded locations. Therefore, a key goal of this project was to precisely re-locate previously documented sites using DGPS, as well as to determine the scope and extent of the wreckage using a variety of appropriate electronic devices. Research and field operations undertaken to identify these known and potential features from both sides of the conflict served to develop a more complete understanding of the battlefield to aid in the interpretation and preservation of these Civil War resources.

Survey Methodology and Results

From 2009 to 2011, the MRD launched several forays onto the naval battlefield to conduct marine and terrestrial remote sensing and diving operations to detect previously-located and undetected archaeological resources related to the Civil War. Marine magnetic and acoustic surveys occurred in several areas in attempts to locate the First and Second Stone Fleets sunk off Charleston to obstruct the main channels into the harbor, remnants of now-submerged batteries including Battery Wagner and Fort Ripley, and inner harbor obstructions including frame torpedoes and row pilings. We dived on several magnetic/acoustic anomalies and wreck sites, namely the monitor *Patapsco*, the blockade runners *Mary Bowers*/*Georgiana* and *Constance*, the remains of the First Stone Fleet, and Fort Ripley. Several terrestrial features were documented including the reported remains of the "*Devil*," a torpedo raft used by the USS *Weehawken* during the ill-fated 7 April 1863 Federal attack on Fort Sumter, the now-naturalized site of the "Swamp Angel" battery used to launch projectiles into Charleston, and the remains of several blockade runners now inland on Sullivan's Island and Isle of Palms. The remainder of the article will focus and discuss two areas of the naval battlefield that the MRD investigated—the stone fleets and the remains of blockade runners.

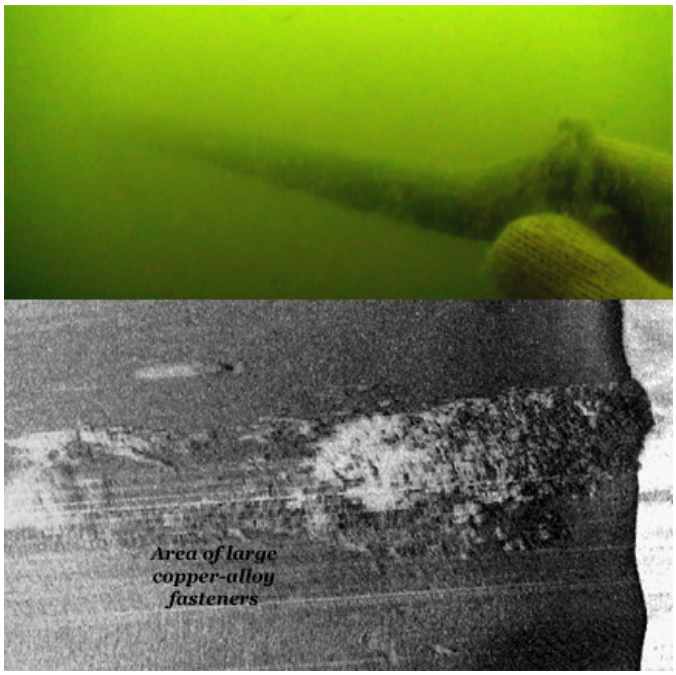

Fig. 4: Large copper-alloy fastener on a First Stone Fleet ballast mound with sonogram showing general location of the large fasteners on the shipwreck. (SCIAA photo and graphic)

Stone Fleet investigations

One of many naval actions that occurred on the battlefield was the sinking of two stone fleets by the Federal navy at the entrances to the two main channels. The First Stone Fleet, consisting of 16 New England ex-whaling and merchant vessels, was sunk at the Bar of the Main Ship Channel in late 1861, while a Second Stone Fleet, consisting of another 13 similar vessels, was sunk at the entrance to Maffitt's Channel. The sunken stone-filled hulks were intended to prevent Confederate blockade runners from entering the port with war material and other supplies, and exiting the port laden with cotton, rice, and naval stores for foreign markets. These acts to obstruct the harbor channels earned the U.S. government international condemnation, especially from the United Kingdom, which was reliant on cotton imports, as well as Confederate derision—despite the irony that South Carolina forces had earlier attempted to obstruct the same channels by sinking four hulks to prevent Federal reinforcements during the Fort Sumter crises in early 1861. At the Main Ship Channel, the First Stone Fleet had a limited effect on subsequent blockade running activities. The channel was never the primary route into the harbor for blockade runners, especially as the Union naval fleet increased with the addition of ironclads, gunboats, and support vessels to support Union land forces efforts to take Morris Island in the summer and fall of 1863. As large pieces of the shipwrecks associated with the First Stone Fleet broke up and drifted away or washed ashore, the assumption of many was that the hulks had simply sunk into the "quicksands" of the bar—an assumption that has persisted to recent times.

In an effort to locate the First Stone Fleet, and to determine whether the hulks were buried or exposed on the sea floor, the MRD undertook extensive marine remote sensing operations, equipped with a cesium magnetometer, side-scan sonar, and sub-bottom profiler, at the old entrance to the Main Ship Channel. Covering a large search area, magnetic

and acoustic evidence started to mount that the remains of the First Stone Fleet had been located, and that they were exposed on the bottom. Eventually, a total of 15 ballast mounds, a wreck marked on an 1858 nautical chart, and one modern wreck were detected on the ocean floor. Visual inspection by MRD underwater archaeologists and volunteers on several of the shipwrecks noted the presence of small to medium-sized river cobble and field stones, various iron structural elements, and numerous copper-alloy fasteners. At one of the sites, large copper-alloy fasteners used to fasten the keel, deadwood, and other components of the stern area together were found bent over indicating the collapse of the ship structure as it deteriorated from ship worms and storms (Fig. 4).

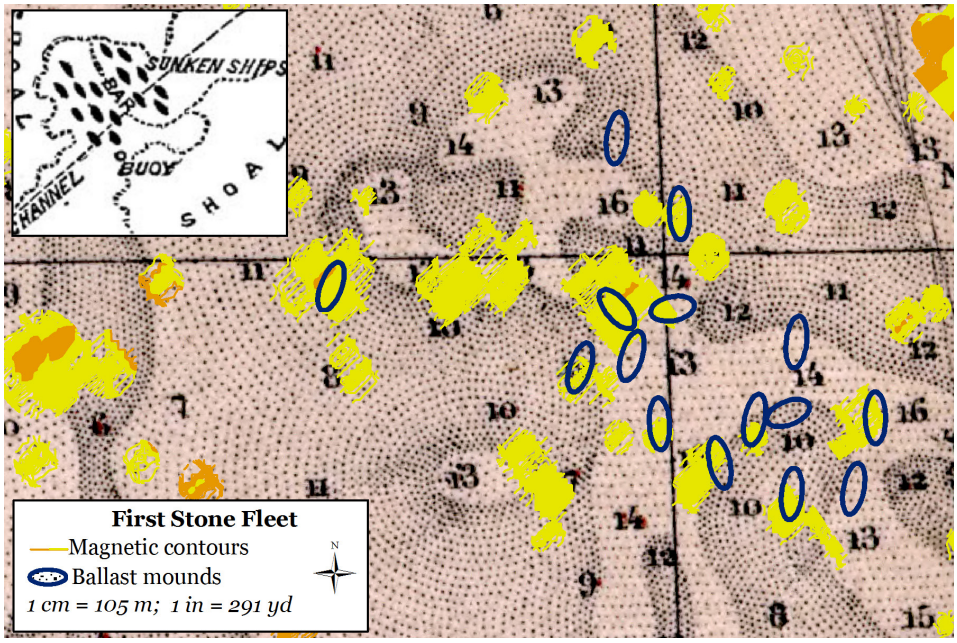

Fig. 5: Distribution of the First Stone Fleet ballast mounds at the old entrance to the Main Ship Channel. The inset shows a map depicting the historically documented dispersal of the hulks. (SCIAA graphic)

In addition to dispelling the notion that the stone fleet vessels had sunk and disappeared into the bar, two interesting observations were noted, both having to do with the distribution of the ballast mounds (Fig. 5). The Union commander and the newspaper reporters observing the operations reported that the vessels were sunk in an indented or checkerboard fashion to prevent a blockade runner from steering a straight course through the obstructions. Mapping the ballast mounds determined that the shipwrecks appear to be distributed in a more random pattern than historically reported. Additionally, of the 15 ballast mounds, 14 of them are tightly packed together at the bar of the old Main Ship Channel, with one outlier approximately 440 yards away to the east. Conceivably, this allowed for an unobstructed passage way for a blockade runner to evade the concentrated area of sunken ships.

As mentioned, only 15 ballast mounds were confirmed, one of the shipwrecks remains undetected and will require additional investigation to locate. Besides locating the elusive ballast mound, future fieldwork will begin the process of archaeologically documenting the extant remains of the stone fleet, including attempts to provide names to the wrecks like the *Corea*, originally an armed British transport ship captured by American Patriots during the Revolutionary War, and the ex-whaling vessel, *Robin Hood*, the only hulk of the stone fleet burnt as a signal to the Confederates.

MRD also undertook marine remote sensing survey operations at the suspected area of the Second Stone Fleet at the entrance to Maffitt's Channel and Rattlesnake Shoal. A wreck (SF2-1) loaded with extremely large stones and iron capstan components was detected and visually investigated by MRD archaeologists and volunteers. Nearby to this shipwreck and marked on modern nautical charts are several obstructions and wrecks. MRD investigated these sites to determine their association if any with the stone fleet. Visual inspection of these four sites revealed that three of the sites were practically identical to the SF2-1 site, even down to having the same capstan components, while one of the charted wrecks was not discovered. Expansion of survey coverage east, and perhaps west, north, and south, should eventually pinpoint the remains of this stone fleet. And to put a positive spin on negative data, at least we know where the Second Stone Fleet isn't.

Based on the size of the boulders, evidence of quarrying, and proximity to each other, MRD believes these wrecks were lighters or scows used to transport rocks to build the Charleston Harbor jetties from 1878 to 1896. These wrecks most likely fell victim to one of the hurricanes that struck the area as the jetties were being built. Historical research of Charleston newspapers during this time period found an article reporting on damages sustained during the hurricane of 25 August 1885, included the sinking of four lighters loaded with stone by Howlett & Company, the contractors for the jetties. Archaeological evidence suggests that these rock-laden wrecks represent the remains of these lighters from the private contractor's fleet. Investigating the shoreline in front of Fort Moultrie, which had been shored up with rocks during the 1870s reveals stones with similar quarrying patterns as those found on the wrecks. More research is needed to solidify the identity of these wrecks and their connection with the jetty project.

Wrecked Blockade Runners

The primary objective of the Union navy's South Atlantic Blockading Squadron entailed blockading the port of Charleston to prevent the entrance and exit of Confederate blockade runners importing war material and other supplies and exporting cotton, rice, and naval stores. To effect the blockade a gauntlet of

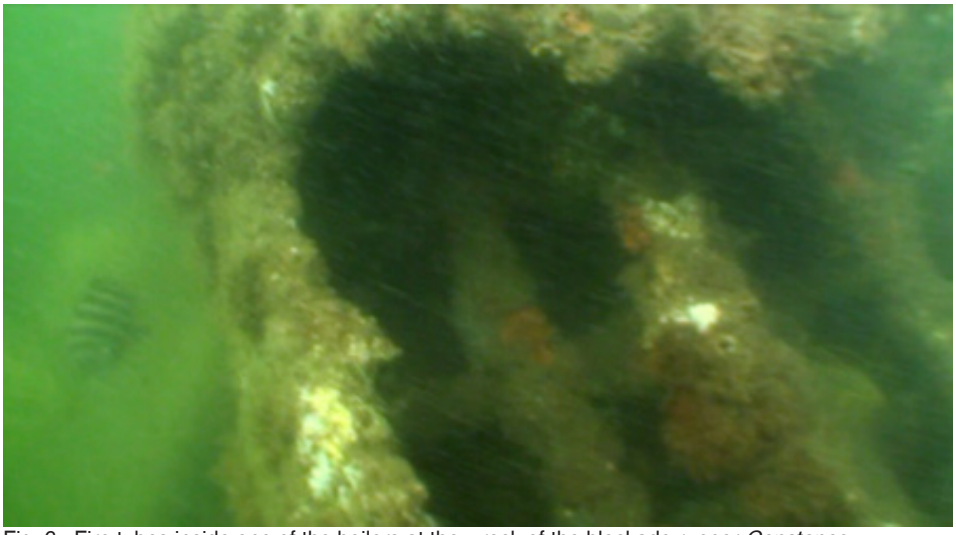

Fig. 6: Fire tubes inside one of the boilers at the wreck of the blockade runner *Constance*. (SCIAA photo)

sailing and steam warships posted from Dewees Inlet to Stono Inlet and at the various channels leading into the harbor, along with the two stone fleets, aimed to deny passage to and from the harbor. The obstruction at the Main Ship Channel along with a heavy Federal naval presence forced the blockade runners to evade the blockade via Maffitt's Channel along Sullivan's Island. By 1863 and continuing through the war, the Union blockading fleet was composed of an Outer Blockade comprised of wooden sailing and steam warships that stood off Charleston Harbor at the entrances to the harbor, and an Inner Blockade composed of the ironclads operating in the Main Ship Channel off Cummings Point on Morris Island at the throat of the harbor. Additionally, scout and picket launches armed with boat howitzers and manned by Union sailors operated during the night between Cummings Point and Sullivan's Island to signal and prevent the entrance and exit of blockade runners.

From the Confederate perspective, in an effort to maintain navigation through Maffitt's Channel for the blockade runners, a string of Confederate batteries along the beachfront of Sullivan's Island, equipped with artillery capable of firing projectiles three to four miles in distance, kept the Union navy at bay and created a narrow passageway into Charleston Harbor. The presence of the Second Stone Fleet and the Union blockaders forced the blockade runners to skirt along the northern edge of the blockade near Dewees Inlet and then to navigate the corridor between the blockaders and the beachfront aiming for Charleston Harbor. This was accomplished at night, during moonless nights and at high tides to increase the odds of successfully dodging the blockaders and the dangers of shoals. While the vast majority of blockade runners evaded the blockade, a number of blockade runners wrecked along the shores of Charleston Harbor attest to the presence and maintenance of the blockade by Union naval forces.

MRD archaeologists conducted marine remote sensing operations and visual inspections of several blockade runners sunk at Charleston Harbor, including the remains of the *Georgiana*, *Mary Bowers* and *Constance* off Isle of Palms (Figs. 6 and 7). A search for a concentration of blockade runners at Bowman's Jetty and along the waterfront of Fort Moultrie failed to detect the presence of several blockade runner wrecks marked on an 1865 nautical chart. The apparent absence of the wrecks in the water suggested instead they lie buried under the accreted shoreline of Fort Moultrie. Georeferencing an 1865 nautical chart over modern imagery tends to support this idea. A limited terrestrial gradiometer survey, conducted by Dr. Jonathan Leader, the State Archaeologist, seemed to have magnetically detected at least two of the beach-bound shipwrecks, which await further investigations.

Besides performing reconnaissance on individual shipwrecks, the MRD wanted to record the pattern of the wrecked blockade runners remaining on the naval battlefield. The remains of the blockade runners are in two clusters with two outliers, and all represent their efforts to elude the Union blockaders and attempt to enter and exit the harbor via Maffitt's Channel. The first cluster off the Isle of Palms is comprised of six wrecks. All of these wrecks were victims of the Outer Blockade and were attempting to run on the inside of the blockaders and the Second Stone Fleet and hug the shoreline to exit or enter the harbor. The vessels came to grief through accidental and intentional groundings, oftentimes with large caliber projectiles headed their way in the darkness. These wrecks include the *Georgiana*, the *Mary Bowers*, which struck the aforementioned wreck, and the *Constance* which reportedly struck the other two wrecks before sinking.

The second cluster, composed of seven wrecks at Fort Moultrie and Bowman's Jetty on Sullivan's Island, represent victims of the Inside Blockade. They either were on their way to sea or inward bound having successfully passed the Outer Blockade. The next gauntlet was the Inside Blockade that was patrolled by small Union launches and the monitors, and the ships were subsequently accidentally or intentionally grounded while attempting to elude their pursuers. There are at least two outliers, *Raccoon*, accidentally grounded while inward bound, was escaping gunfire from the Union blockaders, while *Ruby* had lost its bearing in the night while inward bound and grounded at Lighthouse Inlet between Morris and Folly Islands. Both, however, were attempting to enter the harbor via Maffitt's Channel. Insight gleaned from archaeologically documenting the positions of the wrecked blockade runners revealed their "end-around" attempts to evade the Federal attempts to blockade the harbor through the placement of the Second Stone Fleet as an obstruction and

the line of wooden and ironclad blockaders via Maffitt's Channel.

Conclusions

Historical and archaeological investigations conducted during the course of the project provided an opportunity to more fully explore and interpret this unique assemblage of shipwrecks and other features remaining on the Charleston Harbor Naval Battlefield. In addition to determining the battlefield boundaries and locating cultural resources, the results of the project will serve to guide short and long-term management decisions affecting the integrity and preservation of this maritime battlefield. Some potential issues affecting the preservation of the battlefield including navigation improvements, such as maintenance dredging and channel widening, and beach renourishment have the potential to impact the cultural legacy of not only Civil War related materials, but also those from other historical periods as well. The results of this project and continued research endeavors will help to provide guidance to managers charged with the protection of these cultural resources affiliated with the naval operations during the siege of Charleston.

The MRD recently completed a project webpage that provides more information about the project, as well as a virtual tour of the battlefield consisting of a series of captioned slideshows relating to the Union and Confederate shipwrecks, fortifications, obstructions, and naval actions that took place on the Charleston Harbor Naval Battlefield. The digital version of the final report documenting the scope and findings of the project will be available for download along with this article. We hope the reader will take the opportunity to visit the website to augment the material found in this article. See the MRD webpage at: http://artsandsciences.sc.edu/sciaa/mrd/regsvys_chashbr.html.

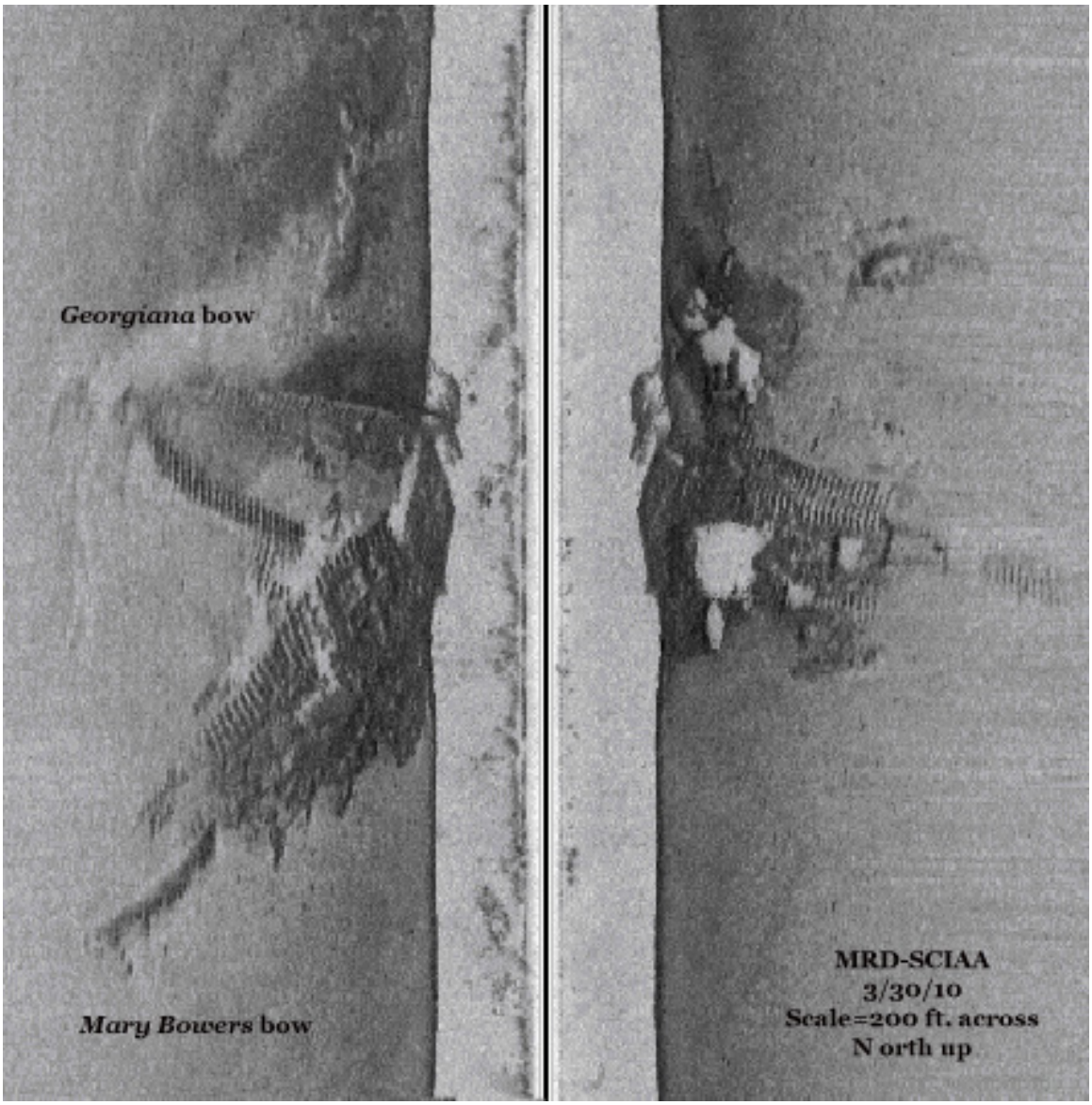

Fig. 7: Sonogram of the wrecked blockade-runners *Georgiana* lying underneath *Mary Bowers*. (SCIAA graphic)

Acknowledgements

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